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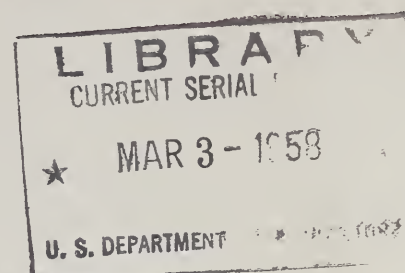
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A Method for Preserving Wet Feces Without Nitrogen Loss 1/

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It has been demonstrated that feces loses nitrogen if it is dried. Consequently the protein analysis should be run on feces before it is dried. The ideal technique would be to determine the protein immediately after the collection.

In this paper a method for preserving wet feces is described. The results of daily protein analysis are compared with determinations made on a wet composite sample. The various other components of the dry matter of feces handled in the usual manner are compared with values obtained on preserved feces.

EXPERIMENTAL PROCEDURE

Six cows which were on a digestion trial served as a source of feces. Duplicate protein analyses were made daily on each cow's feces. Two 400 gram samples were dried for a dry matter determination. At the end of the collection period these samples were composited for each cow and served as a control.

Two 400 gram samples of fresh feces from each cow were placed in No. 2 cans. The cans were boiled in water for five minutes to expel air from the feces. The cans were immediately sealed and processed for one hour at 10 lb. pressure in an autoclave. After the cans were processed they were cooled and stored at room temperature until opened.

The collection period lasted 5 days. At the end of that period the cans were opened. Each cow's feces was composited and thoroughly mixed with an electric mixer. Nitrogen was determined on composited fecal samples. 400 grams of the wet composite feces was dried in the sample dryer. The dried feces was ground and ash, crude fiber and ether extract determinations were run on both the control feces and the dried canned feces.

RESULTS AND DISCUSSION

The results of these analyses are shown in Table I. Each figure represents the average of four determinations.

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Table I. A comparison of the composition of the dry matter of canned feces and feces handled in the usual manner

Cow No.	Ash		Crude Fiber		Fat		Protein	
	canned	control	canned	control	canned	control	canned	control
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
287	14.83	14.38	33.99	34.87	4.36	4.41	14.54	14.19
636	16.14	15.47	35.93	37.07	4.41	4.36	13.69	13.13
697	14.07	14.15	36.91	36.81	4.10	4.25	13.66	13.96
698	14.13	14.08	36.99	36.84	4.64	4.65	13.37	13.36
831	14.20	14.11	34.98	34.79	4.66	4.39	14.78	14.76
1017	16.94	16.78	35.71	35.38	4.57	4.25	14.03	13.94

The protein contents of the canned feces agree very closely with the average of the daily protein control determination. There is also very close agreement in the other components of the dry matter of the feces. An analysis of variance of this data revealed that there is no significant difference between the canned and the control feces. Thus canning is an excellent method of preserving wet feces at room temperature without loss of constituents.